

# A Review of TQM Implementation in Industrial and Business Organizations

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**Abstract-** The purpose of this paper is to review TQM implementation in industrial and business organizations, in order to make it convergent with other Indian industries. In order to achieve this objective, an extensive literature review has been carried out to understand the importance of TQM implementation. A total of 15 papers are reviewed to identify the benefits of implementing TQM. The findings of literature review suggest that process management and customer focus are main factors in TQM implementation and also it improves performance of organization in terms of quality, productivity which helps to improve overall organization performance. Organization can implement TQM effectively in combination with Lean manufacturing, ERP, and quality circles.

**Key words—TQM, quality, organization, efficiency.**

## I- INTRODUCTION

Economic liberalization and global competition are creating opportunities for Indian organization and business firms specially service industry. They use quality to compare with other organization to improve their market position. The well-known quality approaches like ISO 9000, six sigma and TQM helped them to improve performance and to improve quality as par with international and global competition.

TQM is one of the major quality improvement technique which many industries are using to achieve quality at global level. The implementation of TQM rules has shown considerable improvements in performance of industries.

Industries and service organizations in India have been trying individually to improve quality, besides overall

performance through TQM practices. TQM is a comprehensive approach for improving quality, productivity, market share and profitability. This paper aims to review previous research about TQM implementation in industrial and business organization.

## II. TQM Definitions

Many management experts and industry leaders have defined TQM in their own ways. TQM has been defined in various ways such as a search for excellence, creating the right attitude and controls to make the prevention of possible defects and to optimize customer satisfaction by increased efficiency and business effectiveness.

As per Oakland (1989) definition is as follows.

“TQM is an approach to improve the effectiveness and flexibility of business as whole. It is essentially a way of organizing and involving the whole organization, every department, every activity, every single person at every level.”

Kanji (1990) has described that TQM, as “The way of life of an organization committed to customer satisfaction through continuous improvement. This way of life varies from organization to organization and from one country to another but has certain principles, which can be implemented to secure market share, increase profit and to reduce costs.”

Atkinson (1990) describes TQM as a “Strategic approach to produce the best products and services possible through constant innovation.”

Berry (1991) defined TQM process as a “Total corporate focus on meeting and exceeding customer’s expectations and significantly reducing costs resulting from poor quality by adopting a new management system and corporate culture.”

Wolkins(1996) outlined TQM as a tool to integrate fundamental management techniques, existing improvements efforts and technical tools under a disciplined approach focused on continuous improvement,”

Ho,(1999):Total: every person is involved (Its customers and suppliers) Quality: customer requirements are met exactly Management: senior executives are fully committed .

Besterfield (2001): Defined TQM as both a philosophy and set of guiding principles that represent a foundation of a continuously improving organization.

These entire definitions highlighted TQM is a realistic long term systems approach, initiated and driven by top management. It aims at bringing about total cultural change in every part of organization.

### III. TQM - Basic Principles:

Total quality management has a no. of basic principles which can be converted to the figure below



Fig. 1 Total Quality Management

When using total quality management, it is of crucial importance to remember that only customers can determine the level of quality. Whatever efforts are made with respect to training employees or improving processes, only customers determine, for example through evaluation or satisfaction measurement, whether your efforts have contributed to the continuous improvement of product quality services.

- **Employee involvement:**

Employees are an organization’s internal customers. Employee involvement in the development of products or services of an organization largely determines the quality of these products or services. Ensure that you have created a culture in which employees feel that they are involved with the organization and its products and services.

- **Process centered:**

Process thinking and process handling are a fundamental part of total quality management. Processes are guiding principles and people support these processes based on basic objectives that are linked to the mission, vision and strategy.

- **Integrated system:**

Following principle process centered, it is important to have an integrated organization system that can be modified, for example ISO 9000 or a company quality system for the understanding and handling of the quality of the products or services of an organization.

#### **Strategic and systematic approach:**

A strategic plan must embrace the integration and quality development and the development or services of an organization.

- **Decision – making based on facts:**

Decision making within the organization must only be based on facts and not on opinions (emotion and personal interest).Data should support this decision making process.

- **Communication:**

A communication strategy must be formulated in such a way that it is in line with the mission,vision and objectives of the organization. This strategy comprises the stakeholders, the level within the organization, the communication channels, the measurability of effectiveness, timeliness etc.

- **Continuous improvement:**

By using the right measuring tools and innovative and creative thinking,continuous improvement proposals will be initiated and implemented so that the organization can develop into a higher level of quality.

### **IV. TQM and its combination with another similar concept:**

With changes in different industrial processes like betterment in design methods, production processes and its techniques, inventory management etc, also changes are seen in quality control methods also.

It is found that only inspection of products is not sufficient, now stress is given on prevention of occurrence of defects.so for this more importance is given to manufacturing and organizational activities also.

Organizations are using concept of TQM with lean manufacturing(LM), ERP and quality circles. ERP technology is important to give better service to customer by giving social and technical readiness to the organization. Also by using LM which give techniques for less waste, less manufacturing waste, less manufacturing space and less human efforts etc.

Thus for having effective quality management in the organization it is required to integrate TQM with similar concepts.

#### V.TQM –Present status:

In the initial stages of quality revolution (i.e. in 1980's) organization give their concern to quality issues. In these days' no one check the quality programs and their results, but with global competition in all fields this area is also considered to give importance.

These days' quality circles are formed within the organization to take care of quality management issues. Also all employees in organization i.e. from top management to bottom level are made responsible and involved in all quality improvement measures taken.

As the main aim of TQM is customer satisfaction, so regular research work is done by conducting customer feedback and by using market surveys accordingly changes are done in organizational processes.

#### VI. LITERATURE REVIEW

K.Subramanya Bhat et al.(2009)The purpose of this study is to identify the barriers of TQM implementation in order to make them know to the managers of Indian industries. The result from the survey indicates that main barriers are lack of benchmark and employees are resistant to change.<sup>[1]</sup>

T.Thiagarajan et al. (1998). This paper proposes a tool for self-assessment and benchmarking purposes to find out critical success factors for implementing TQM. Quality factors are related according to critical, important and minor importance.<sup>[2]</sup>

Rajkumar et. al.(2009).The purpose of this paper is to analyze various factors important for total quality management implementation in various manufacturing organization and to assess their relevance for Indian manufacturing organizations.It is shown that customer focus must be prime objective to achieve TQM. The paper is useful for manufacturing as well as in service industries in starting phase of implementation.<sup>[3]</sup>

V.C.Arumugam et. al.(2011).This paper shows a model to conduct an empirical study in order to improve their performance. In this research a model is developed that includes critical success factors of total quality management and quality improvements. The main contribution of this paper is to pursued managers to take a serious attention on the relationship among CSFs of TQM, quality improvement and performance improvement.<sup>[4]</sup>

Shari Mohd. Yusof et. al.(2001).This research paper describes the methodology and findings of four industrial case studies conducted on the implementation of TQM in SME'S. Results from case studies indicate that SME'S has approached TQM without help of any specific framework, it is found that by implementation of quality initiations business performance is enhanced which is helpful to produce quality products.<sup>[5]</sup>

Santosh S. Dubey et al. (2017). In this paper literature review has been done to study critical success factors for successful implementation of TQM and causes responsible for resistance of SME in adopting TQM. The results will encourage to minimize the barriers of SME's in TQM implementation.<sup>[6]</sup>

Vasanthrayalu et. al.(2016).This paper empirically tested the relation of TQM practices on operational performance in both service and manufacturing industries. The data was collected from respondents using survey method. From results of study it is found that operational performance views leadership, strategy and planning, customer focus, information and analysis people management and quality performance are important for industries and for enhancing competition level of industry and to maintain quality of work TQM is necessary.<sup>[7]</sup>

Sharma Pankaj et. al.(2013).This paper is an attempt to find significance of TQM in a rapidly changing present industrial environment. The result shows every organization irrespective of their size and scale should implement TQM by integrating it with new techniques like lean manufacturing, quality circle and ERP.<sup>[8]</sup>

Singla Nitin et. al.(2013).This paper tries to develop a comprehensive list of critical success factors for TQM implementation in Indian industries by doing a comparative study of 21 major national quality awards and 14 frameworks developed by various researchers. The result of study indicate that process management and planning followed by customer focused performance and people management are key areas of TQM.<sup>[9]</sup>

A.B.Chaple et. al.(2014).This paper presents a review of lean principles and practices in Indian manufacturing industries. The paper contributed by identifying enablers and barriers in implementing the lean principles and practices.<sup>[10]</sup>

G.Malathi et. al.(2017).This paper seeks to make a comparative study on the TQM applications of cooperative industries. By this study important TQM factors are find out. This study was focused to study TQM factors like quality culture, focus on employee, continuous improvement, customer and strategic competitive management.<sup>[11]</sup>

### VII. Advantages of TQM Implementation:

Though basically TQM is implemented in large scale industries, SME'S are still resistant to implement TQM, rather they are going to implement ISO certification, but if we combine process improvements with products improvements and implement TQM in association with lean manufacturing, ERP and quality circle, will give good results for overall performance improvement of organization. Following are listed some advantages of TQM implementation in large and small scale industries.

- Quality improvement of product can be achieved.
- TQM can be implemented effectively by adopting CSF's of TQM.
- Process quality of work is increased as well as enhancement of the competition level of society.
- Help to survive in market competition.

### VIII. Barriers in TQM implementation:

The implementation of TQM given them positive results, organizations trying to improve their product quality,besides their overall performance through TQM practices,but there is some barrier which are responsible for TQM implementation.

- Lack of benchmarking among industries.
- Employees are resistant to change.
- Inadequate resources for TQM implementation.
- Lack of customer orientation.
- Lack of planning for quality.
- Lack of management commitment.
- Lack of total involvement.

### CONCLUSION

The study of these research papers demonstrate that the efficient implementation of TQM techniques leads to subsequent improvement in productivity of organization i.e. industrial and business organizations.TQM can be implemented in SME'S and large scale organizations with association of lean manufacturing, quality circle and ERP will give great results.

With its implementation quality of work is increased,also we can improve quality of process in combination with quality of products.

There are some barriers for TQM implementation,out of that benchmarking of industries and employee's resistance for change are important and customer focus is very much important for successful implementation of Total quality management.

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